

=====

Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866)
217-9197 (toll free).

Reviewer: Keisha Douglas

Timestamp: [year=2008; month=6; day=18; hr=16; min=42; sec=8; ms=656;]

=====

Application No: 10574424 Version No: 3.1

Input Set:

Output Set:

Started: 2008-06-18 16:37:56.814
Finished: 2008-06-18 16:37:58.167
Elapsed: 0 hr(s) 0 min(s) 1 sec(s) 353 ms
Total Warnings: 12
Total Errors: 0
No. of SeqIDs Defined: 12
Actual SeqID Count: 12

Error code	Error Description
W 402	Undefined organism found in <213> in SEQ ID (1)
W 402	Undefined organism found in <213> in SEQ ID (2)
W 402	Undefined organism found in <213> in SEQ ID (3)
W 402	Undefined organism found in <213> in SEQ ID (4)
W 402	Undefined organism found in <213> in SEQ ID (5)
W 402	Undefined organism found in <213> in SEQ ID (6)
W 402	Undefined organism found in <213> in SEQ ID (7)
W 402	Undefined organism found in <213> in SEQ ID (8)
W 213	Artificial or Unknown found in <213> in SEQ ID (9)
W 402	Undefined organism found in <213> in SEQ ID (10)
W 402	Undefined organism found in <213> in SEQ ID (11)
W 402	Undefined organism found in <213> in SEQ ID (12)

SEQUENCE LISTING

<110> CONTORNI, Mario

<120> LIQUID VACCINES FOR MULTIPLE MENINGOCOCCAL SEROGROUPS

<130> PP021401.0012

<140> 10/574,424

<141> 2006-04-04

<150> GB0323102.4

<151> 2003-10-02

<150> GB0412052.3

<151> 2004-05-28

<160> 12

<170> SeqWin99, version 1.02

<210> 1

<211> 350

<212> PRT

<213> N. meningitidis

<400> 1

Met	Lys	His	Phe	Pro	Ser	Lys	Val	Leu	Thr	Thr	Ala	Ile	Leu	Ala	Thr
1				5					10					15	

Phe	Cys	Ser	Gly	Ala	Leu	Ala	Ala	Thr	Asn	Asp	Asp	Asp	Val	Lys	Lys
			20					25					30		

Ala	Ala	Thr	Val	Ala	Ile	Ala	Ala	Ala	Tyr	Asn	Asn	Gly	Gln	Glu	Ile
		35						40				45			

Asn	Gly	Phe	Lys	Ala	Gly	Glu	Thr	Ile	Tyr	Asp	Ile	Asp	Glu	Asp	Gly
	50					55					60				

Thr	Ile	Thr	Lys	Lys	Asp	Ala	Thr	Ala	Ala	Asp	Val	Glu	Ala	Asp	Asp
65					70					75				80	

Phe	Lys	Gly	Leu	Gly	Leu	Lys	Lys	Val	Val	Thr	Asn	Leu	Thr	Lys	Thr
				85						90				95	

Val	Asn	Glu	Asn	Lys	Gln	Asn	Val	Asp	Ala	Lys	Val	Lys	Ala	Ala	Glu
				100					105				110		

Ser	Glu	Ile	Glu	Lys	Leu	Thr	Thr	Lys	Leu	Ala	Asp	Thr	Asp	Ala	Ala
		115					120					125			

Leu	Ala	Asp	Thr	Asp	Ala	Ala	Leu	Asp	Ala	Thr	Thr	Asn	Ala	Leu	Asn
		130					135					140			

Lys	Leu	Gly	Glu	Asn	Ile	Thr	Thr	Phe	Ala	Glu	Glu	Thr	Lys	Thr	Asn
145					150					155					160

Ile Val Lys Ile Asp Glu Lys Leu Glu Ala Val Ala Asp Thr Val Asp
165 170 175

Lys His Ala Glu Ala Phe Asn Asp Ile Ala Asp Ser Leu Asp Glu Thr
180 185 190

Asn Thr Lys Ala Asp Glu Ala Val Lys Thr Ala Asn Glu Ala Lys Gln
195 200 205

Thr Ala Glu Glu Thr Lys Gln Asn Val Asp Ala Lys Val Lys Ala Ala
210 215 220

Glu Thr Ala Ala Gly Lys Ala Glu Ala Ala Ala Gly Thr Ala Asn Thr
225 230 235 240

Ala Ala Asp Lys Ala Glu Ala Val Ala Ala Lys Val Thr Asp Ile Lys
245 250 255

Ala Asp Ile Ala Thr Asn Lys Asp Asn Ile Ala Lys Lys Ala Asn Ser
260 265 270

Ala Asp Val Tyr Thr Arg Glu Glu Ser Asp Ser Lys Phe Val Arg Ile
275 280 285

Asp Gly Leu Asn Ala Thr Thr Glu Lys Leu Asp Thr Arg Leu Ala Ser
290 295 300

Ala Glu Lys Ser Ile Ala Asp His Asp Thr Arg Leu Asn Gly Leu Asp
305 310 315 320

Lys Thr Val Ser Asp Leu Arg Lys Glu Thr Arg Gln Gly Leu Ala Glu
325 330 335

Gln Ala Ala Leu Ser Gly Leu Phe Gln Pro Tyr Asn Val Gly
340 345 350

<210> 2

<211> 327

<212> PRT

<213> N. meningitidis

<400> 2

Ala Thr Asn Asp Asp Asp Val Lys Lys Ala Ala Thr Val Ala Ile Ala
1 5 10 15

Ala Ala Tyr Asn Asn Gly Gln Glu Ile Asn Gly Phe Lys Ala Gly Glu
20 25 30

Thr Ile Tyr Asp Ile Asp Glu Asp Gly Thr Ile Thr Lys Lys Asp Ala
35 40 45

Thr Ala Ala Asp Val Glu Ala Asp Asp Phe Lys Gly Leu Gly Leu Lys
50 55 60

Lys Val Val Thr Asn Leu Thr Lys Thr Val Asn Glu Asn Lys Gln Asn
65 70 75 80

Val	Asp	Ala	Lys	Val	Lys	Ala	Ala	Glu	Ser	Glu	Ile	Glu	Lys	Leu	Thr			
				85					90					95				
Thr	Lys	Leu	Ala	Asp	Thr	Asp	Ala	Ala	Leu	Ala	Asp	Thr	Asp	Ala	Ala			
			100					105					110					
Leu	Asp	Ala	Thr	Thr	Asn	Ala	Leu	Asn	Lys	Leu	Gly	Glu	Asn	Ile	Thr			
		115					120					125						
Thr	Phe	Ala	Glu	Glu	Thr	Lys	Thr	Asn	Ile	Val	Lys	Ile	Asp	Glu	Lys			
		130					135					140						
Leu	Glu	Ala	Val	Ala	Asp	Thr	Val	Asp	Lys	His	Ala	Glu	Ala	Phe	Asn			
145					150					155					160			
Asp	Ile	Ala	Asp	Ser	Leu	Asp	Glu	Thr	Asn	Thr	Lys	Ala	Asp	Glu	Ala			
				165					170					175				
Val	Lys	Thr	Ala	Asn	Glu	Ala	Lys	Gln	Thr	Ala	Glu	Glu	Thr	Lys	Gln			
			180					185					190					
Asn	Val	Asp	Ala	Lys	Val	Lys	Ala	Ala	Glu	Thr	Ala	Ala	Gly	Lys	Ala			
		195					200						205					
Glu	Ala	Ala	Ala	Gly	Thr	Ala	Asn	Thr	Ala	Ala	Asp	Lys	Ala	Glu	Ala			
		210				215					220							
Val	Ala	Ala	Lys	Val	Thr	Asp	Ile	Lys	Ala	Asp	Ile	Ala	Thr	Asn	Lys			
225					230				235						240			
Asp	Asn	Ile	Ala	Lys	Lys	Ala	Asn	Ser	Ala	Asp	Val	Tyr	Thr	Arg	Glu			
			245						250					255				
Glu	Ser	Asp	Ser	Lys	Phe	Val	Arg	Ile	Asp	Gly	Leu	Asn	Ala	Thr	Thr			
			260					265					270					
Glu	Lys	Leu	Asp	Thr	Arg	Leu	Ala	Ser	Ala	Glu	Lys	Ser	Ile	Ala	Asp			
		275					280					285						
His	Asp	Thr	Arg	Leu	Asn	Gly	Leu	Asp	Lys	Thr	Val	Ser	Asp	Leu	Arg			
		290				295					300							
Lys	Glu	Thr	Arg	Gln	Gly	Leu	Ala	Glu	Gln	Ala	Ala	Leu	Ser	Gly	Leu			
305					310				315						320			
Phe	Gln	Pro	Tyr	Asn	Val	Gly												
				325														

<210> 3
 <211> 248
 <212> PRT
 <213> N. meningitidis

<400> 3
 Val Ala Ala Asp Ile Gly Ala Gly Leu Ala Asp Ala Leu Thr Ala Pro
 1 5 10 15

Leu Asp His Lys Asp Lys Gly Leu Gln Ser Leu Thr Leu Asp Gln Ser
20 25 30

Val Arg Lys Asn Glu Lys Leu Lys Leu Ala Ala Gln Gly Ala Glu Lys
35 40 45

Thr Tyr Gly Asn Gly Asp Ser Leu Asn Thr Gly Lys Leu Lys Asn Asp
50 55 60

Lys Val Ser Arg Phe Asp Phe Ile Arg Gln Ile Glu Val Asp Gly Gln
65 70 75 80

Leu Ile Thr Leu Glu Ser Gly Glu Phe Gln Val Tyr Lys Gln Ser His
85 90 95

Ser Ala Leu Thr Ala Phe Gln Thr Glu Gln Ile Gln Asp Ser Glu His
100 105 110

Ser Gly Lys Met Val Ala Lys Arg Gln Phe Arg Ile Gly Asp Ile Ala
115 120 125

Gly Glu His Thr Ser Phe Asp Lys Leu Pro Glu Gly Gly Arg Ala Thr
130 135 140

Tyr Arg Gly Thr Ala Phe Gly Ser Asp Asp Ala Gly Gly Lys Leu Thr
145 150 155 160

Tyr Thr Ile Asp Phe Ala Ala Lys Gln Gly Asn Gly Lys Ile Glu His
165 170 175

Leu Lys Ser Pro Glu Leu Asn Val Asp Leu Ala Ala Ala Asp Ile Lys
180 185 190

Pro Asp Gly Lys Arg His Ala Val Ile Ser Gly Ser Val Leu Tyr Asn
195 200 205

Gln Ala Glu Lys Gly Ser Tyr Ser Leu Gly Ile Phe Gly Gly Lys Ala
210 215 220

Gln Glu Val Ala Gly Ser Ala Glu Val Lys Thr Val Asn Gly Ile Arg
225 230 235 240

His Ile Gly Leu Ala Ala Lys Gln
245

<210> 4
<211> 179
<212> PRT
<213> N. meningitidis

<400> 4
Val Ser Ala Val Ile Gly Ser Ala Ala Val Gly Ala Lys Ser Ala Val
1 5 10 15

Asp Arg Arg Thr Thr Gly Ala Gln Thr Asp Asp Asn Val Met Ala Leu
20 25 30

Arg Ile Glu Thr Thr Ala Arg Ser Tyr Leu Arg Gln Asn Asn Gln Thr
35 40 45

Lys Gly Tyr Thr Pro Gln Ile Ser Val Val Gly Tyr Asn Arg His Leu
50 55 60

Leu Leu Leu Gly Gln Val Ala Thr Glu Gly Glu Lys Gln Phe Val Gly
65 70 75 80

Gln Ile Ala Arg Ser Glu Gln Ala Ala Glu Gly Val Tyr Asn Tyr Ile
85 90 95

Thr Val Ala Ser Leu Pro Arg Thr Ala Gly Asp Ile Ala Gly Asp Thr
100 105 110

Trp Asn Thr Ser Lys Val Arg Ala Thr Leu Leu Gly Ile Ser Pro Ala
115 120 125

Thr Gln Ala Arg Val Lys Ile Val Thr Tyr Gly Asn Val Thr Tyr Val
130 135 140

Met	Gly	Ile	Leu	Thr	Pro	Glu	Glu	Gln	Ala	Gln	Ile	Thr	Gln	Lys	Val
145					150					155					160

Ser Thr Thr Val Gly Val Gln Lys Val Ile Thr Leu Tyr Gln Asn Tyr
165 170 175

Val Gln Arg

<210>	5
<211>	168
<212>	PRT
<213>	N. meningitidis

<400> 5
Ala Thr Tyr Lys Val Asp Glu Tyr His Ala Asn Ala Arg Phe Ala Ile
1 5 10 15

Asp His Phe Asn Thr Ser Thr Asn Val Gly Gly Phe Tyr Gly Leu Thr
20 25 30

Gly Ser Val Glu Phe Asp Gln Ala Lys Arg Asp Gly Lys Ile Asp Ile
35 40 45

Thr Ile Pro Ile Ala Asn Leu Gln Ser Gly Ser Gln His Phe Thr Asp
50 55 60

His Leu Lys Ser Ala Asp Ile Phe Asp Ala Ala Gln Tyr Pro Asp Ile
65 70 75 80

Arg Phe Val Ser Thr Lys Phe Asn Phe Asn Gly Lys Lys Leu Val Ser
85 90 95

Val	Asp	Gly	Asn	Leu	Thr	Met	His	Gly	Lys	Thr	Ala	Pro	Val	Lys	Leu
			100					105					110		

Lys Ala Glu Lys Phe Asn Cys Tyr Gln Ser Pro Met Glu Lys Thr Glu
115 120 125

Val Cys Gly Gly Asp Phe Ser Thr Thr Ile Asp Arg Thr Lys Trp Gly
130 135 140

Met Asp Tyr Leu Val Asn Val Gly Met Thr Lys Ser Val Arg Ile Asp
145 150 155 160

Ile Gln Ile Glu Ala Ala Lys Gln
165

<210> 6

<211> 464

<212> PRT

<213> N. meningitidis

<400> 6

Ser Pro Asp Val Lys Ser Ala Asp Thr Leu Ser Lys Pro Ala Ala Pro
1 5 10 15

Val Val Ser Glu Lys Glu Thr Glu Ala Lys Glu Asp Ala Pro Gln Ala
20 25 30

Gly Ser Gln Gly Gln Gly Ala Pro Ser Ala Gln Gly Ser Gln Asp Met
35 40 45

Ala Ala Val Ser Glu Glu Asn Thr Gly Asn Gly Gly Ala Val Thr Ala
50 55 60

Asp Asn Pro Lys Asn Glu Asp Glu Val Ala Gln Asn Asp Met Pro Gln
65 70 75 80

Asn Ala Ala Gly Thr Asp Ser Ser Thr Pro Asn His Thr Pro Asp Pro
85 90 95

Asn Met Leu Ala Gly Asn Met Glu Asn Gln Ala Thr Asp Ala Gly Glu
100 105 110

Ser Ser Gln Pro Ala Asn Gln Pro Asp Met Ala Asn Ala Ala Asp Gly
115 120 125

Met Gln Gly Asp Asp Pro Ser Ala Gly Gly Gln Asn Ala Gly Asn Thr
130 135 140

Ala Ala Gln Gly Ala Asn Gln Ala Gly Asn Asn Gln Ala Ala Gly Ser
145 150 155 160

Ser Asp Pro Ile Pro Ala Ser Asn Pro Ala Pro Ala Asn Gly Gly Ser
165 170 175

Asn Phe Gly Arg Val Asp Leu Ala Asn Gly Val Leu Ile Asp Gly Pro
180 185 190

Ser Gln Asn Ile Thr Leu Thr His Cys Lys Gly Asp Ser Cys Ser Gly
195 200 205

Asn Asn Phe Leu Asp Glu Glu Val Gln Leu Lys Ser Glu Phe Glu Lys
 210 215 220
 Leu Ser Asp Ala Asp Lys Ile Ser Asn Tyr Lys Lys Asp Gly Lys Asn
 225 230 235 240
 Asp Lys Phe Val Gly Leu Val Ala Asp Ser Val Gln Met Lys Gly Ile
 245 250 255
 Asn Gln Tyr Ile Ile Phe Tyr Lys Pro Lys Pro Thr Ser Phe Ala Arg
 260 265 270
 Phe Arg Arg Ser Ala Arg Ser Arg Arg Ser Leu Pro Ala Glu Met Pro
 275 280 285
 Leu Ile Pro Val Asn Gln Ala Asp Thr Leu Ile Val Asp Gly Glu Ala
 290 295 300
 Val Ser Leu Thr Gly His Ser Gly Asn Ile Phe Ala Pro Glu Gly Asn
 305 310 315 320
 Tyr Arg Tyr Leu Thr Tyr Gly Ala Glu Lys Leu Pro Gly Gly Ser Tyr
 325 330 335
 Ala Leu Arg Val Gln Gly Glu Pro Ala Lys Gly Glu Met Leu Ala Gly
 340 345 350
 Ala Ala Val Tyr Asn Gly Glu Val Leu His Phe His Thr Glu Asn Gly
 355 360 365
 Arg Pro Tyr Pro Thr Arg Gly Arg Phe Ala Ala Lys Val Asp Phe Gly
 370 375 380
 Ser Lys Ser Val Asp Gly Ile Ile Asp Ser Gly Asp Asp Leu His Met
 385 390 395 400
 Gly Thr Gln Lys Phe Lys Ala Ala Ile Asp Gly Asn Gly Phe Lys Gly
 405 410 415
 Thr Trp Thr Glu Asn Gly Ser Gly Asp Val Ser Gly Lys Phe Tyr Gly
 420 425 430
 Pro Ala Gly Glu Glu Val Ala Gly Lys Tyr Ser Tyr Arg Pro Thr Asp
 435 440 445
 Ala Glu Lys Gly Gly Phe Gly Val Phe Ala Gly Lys Lys Glu Gln Asp
 450 455 460

<210> 7
 <211> 644
 <212> PRT
 <213> N. meningitidis

<400> 7
 Met Ala Ser Pro Asp Val Lys Ser Ala Asp Thr Leu Ser Lys Pro Ala
 1 5 10 15

Ala Pro Val Val Ser Glu Lys Glu Thr Glu Ala Lys Glu Asp Ala Pro
 20 25 30

Gln Ala Gly Ser Gln Gly Gln Gly Ala Pro Ser Ala Gln Gly Gly Gln
 35 40 45

Asp Met Ala Ala Val Ser Glu Glu Asn Thr Gly Asn Gly Gly Ala Ala
 50 55 60

Ala Thr Asp Lys Pro Lys Asn Glu Asp Glu Gly Ala Gln Asn Asp Met
 65 70 75 80

Pro Gln Asn Ala Ala Asp Thr Asp Ser Leu Thr Pro Asn His Thr Pro
 85 90 95

Ala Ser Asn Met Pro Ala Gly Asn Met Glu Asn Gln Ala Pro Asp Ala
 100 105 110

Gly Glu Ser Glu Gln Pro Ala Asn Gln Pro Asp Met Ala Asn Thr Ala
 115 120 125

Asp Gly Met Gln Gly Asp Asp Pro Ser Ala Gly Gly Glu Asn Ala Gly
 130 135 140

Asn Thr Ala Ala Gln Gly Thr Asn Gln Ala Glu Asn Asn Gln Thr Ala
 145 150 155 160

Gly Ser Gln Asn Pro Ala Ser Ser Thr Asn Pro Ser Ala Thr Asn Ser
 165 170 175

Gly Gly Asp Phe Gly Arg Thr Asn Val Gly Asn Ser Val Val Ile Asp
 180 185 190

Gly Pro Ser Gln Asn Ile Thr Leu Thr His Cys Lys Gly Asp Ser Cys
 195 200 205

Ser Gly Asn Asn Phe Leu Asp Glu Glu Val Gln Leu Lys Ser Glu Phe
 210 215 220

Glu Lys Leu Ser Asp Ala Asp Lys Ile Ser Asn Tyr Lys Lys Asp Gly
 225 230 235 240

Lys Asn Asp Gly Lys Asn Asp Lys Phe Val Gly Leu Val Ala Asp Ser
 245 250 255

Val Gln Met Lys Gly Ile Asn Gln Tyr Ile Ile Phe Tyr Lys Pro Lys
 260 265 270

Pro Thr Ser Phe Ala Arg Phe Arg Arg Ser Ala Arg S